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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,917	11/15/2006	Kazuhiro Izumi	277802US3PCT	7956
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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER KRUER, STEFAN	
			ART UNIT	PAPER NUMBER
			3654	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/549,917	Applicant(s) IZUMI ET AL.	
	Examiner Stefan Krueer	Art Unit 3654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 - 15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>20.09.05, 10.01.07, 28.02.07.</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

The disclosure, title and abstract are objected to because of the following informalities: "machineroomless" is preferably written as "machine-roomless" or "machine room-less".

Appropriate corrections are required.

Claim Objections

Claims 1 - 15 are objected to because of the following informalities:

- **Re: Claims 1 – 15**, "machineroomless" is preferably written as "machine room-less" or "machine-roomless".
- **Re: Claim 1, Line 11**, "rail" of "guide rail" should be written as "rails".
- **Re: Claim 8:**
 - **Line 7**, "sheave" of "deflecting sheave" should be written as "sheaves".
 - **Line 9**, "rail" of "car guide rail" and "counterweight guide rail" should be written as "rails".
- **Re: Claim 13**, "... wherein the side support beam the rear support beam and the diagonal support beam is..." should be written as "... wherein the side support beam, the rear support beam and the diagonal support beam **are**..."
- **Re: Claim 15**, the recitation "...wherein the support means..." will be interpreted as "... wherein the base frame support means..."

Appropriate corrections are required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 – 2, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ach (WO 99/33742) in view of Hayashi et al (WO 01/42121 A1).

Ach discloses a machine room-less elevator system (Fig. 1) having an elevator shaft (2) and not having any machine room in an upper part of the elevator shaft, said machine-room-less elevator system comprising:

- a car (1) guided by car guide rails (3) for vertical movement in the elevator shaft;
- a counterweight (34, Fig. 5) guided by counterweight guide rails (20) for vertical movement;
- a traction sheave (5) disposed in a space above the car at the top of the elevator shaft on either the right-hand or the left-hand side of the car (Fig. 5);
- a driving device (7 – 9) for driving the traction sheave for rotation;
- a base frame (6) fixedly supporting the driving device;
- base frame support means (13, 14, Fig. 5) fixed to the car guide rails and the counterweight guide rails (Fig. 3);
- and vibration-isolating means (26, Fig. 6) interposed between the base frame and the base frame support means;

however, the counterweight of Ach moves vertically in a space extending along the side wall of the elevator shaft beside the car.

Attention is directed to Hayashi et al who teach their counterweight (2, Fig. 2) mounted for vertical movement along a rear wall of their elevator shaft (8) behind their car (1) for purpose of facilitating installation in a small space (Abstract).

It would have been obvious to one of ordinary skill in the art to modify the reference of Ach with the teaching of Hayashi et al for the benefit of saving space.

Re: Claim 2, Ach is silent regarding an upper deflecting sheave guiding a part of his hoisting element (12) extending toward his counterweight.

Attention is directed to Hayashi et al who teach their upper deflecting sheave (5b, Fig. 8) for guiding a part, extending toward their counterweight, of a hoisting element (3)

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suspending the car and counterweight, whereby the upper deflecting sheave is supported on his base frame (10), for the known features of multiple roping.

It would have been obvious to one of ordinary skill in the art to modify the reference of Ach with the teaching of Hayashi et al for the benefits of minimizing drive capacity, lower car speed in relation to the speed of the hoisting element and shortened "rope runs".

Re: Claim 4, Ach discloses his support means is provided with an opening (17) through which a vertical part of his hoisting element passes.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ach in view of Hayashi et al, as applied to Claim 1, and in further view of Orrmann (WO 02/59028 A2).

Ach and Hayashi et al are silent regarding lower deflecting sheaves supported on a support frame connected to their base frame.

Attention is directed to Orrmann who teaches his deflecting sheaves (3, 4) on his support frame connected to his base frame wherein his lower deflecting sheaves are of parallel orientation for the feature of "... taking (sic) up as little space as possible in the transverse direction of the shaft so as to allow a maximally effective utilization of the elevator shaft space" (Page 1, Line 35).

It would have been obvious to one of ordinary skill in the art to modify the reference of Ach and Hayashi et al with the teaching of Orrmann for saving space.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ach in view of Hayashi et al, as applied to Claim 1, and in further view of Aulanko et al (EP 0 710 618 A2).

Ach and Hayashi et al are silent regarding a control panel for controlling the operation of their respective driving device.

Attention is directed to Aulanko et al who teach their control panel (8, Fig. 1 and Col. 3, Lines 25 - 28) for controlling their driving device (6) and disposed in a region near either their left or right side wall of their elevator shaft, wherein the control panel

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and driving device are "... mounted to form a single aggregate" in their machine-roomless elevator.

It would have been obvious to one of ordinary skill in the art to modify the reference of Ach and Hayashi et al with the teaching of Aulanko et al to provide an integrated control and driving device assembly for the benefits of saving space, localized control and facilitating installation.

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Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ach in view of Hayashi et al, and, in further view of Bauer (WO 01/27015).

Ach discloses a machine room-less elevator system (Fig. 1) having an elevator shaft (2) and not having any machine room in an upper part of the elevator shaft, said machine room-less elevator system comprising:

- a car (1) guided by right and left car guide rails (3) for vertical movement in the elevator shaft;
- a counterweight (34, Fig. 5) guided by right and left counterweight guide rails (20) for vertical movement;
- a traction sheave (5) disposed in a space above the car at the top of the elevator shaft near either the right or the left side wall of the elevator shaft;
- a driving device (7 – 9) for driving the traction sheave for rotation;
- a base frame (6) fixedly supporting the driving device;
- base frame support means (13, 14, Fig. 5) fixed to the car guide rails and the counterweight guide rails (Fig. 3);
- and vibration-isolating means (26, Fig. 6) interposed between the base frame and the base frame support means;

however, the counterweight of Ach moves vertically in a space extending along the side wall of the elevator shaft beside the car and the axis of rotation of his traction sheave extends perpendicularly to his side wall.

Attention is directed to Hayashi et al who teach their counterweight (2, Fig. 2) mounted for vertical movement along a rear wall of their elevator shaft (8) behind their car (1) for purpose of facilitating installation in a small space (Abstract); however, the

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axis of rotation of their traction sheave extends perpendicularly from either their side or rear wall.

Further consideration is given to Bauer who teaches his traction sheave (13, Fig., 4) capable of being rotated about an axis of rotation diagonal to their side wall and their rear wall on a horizontal plane, for the feature of saving space (Abstract).

It would have been obvious to one of ordinary skill in the art to modify the reference of Ach with the teachings of Hayashi et al and Bauer for the benefits of facilitating and enabling installation in a small space.

Re: Claim 7, Ach is silent regarding an upper deflecting sheave guiding a part of his hoisting element (12) extending toward his counterweight.

Attention is directed to Hayashi et al who teach their upper deflecting sheave (5b, Fig. 8) for guiding a part, extending toward their counterweight, of a hoisting element (3) suspending the car and counterweight, whereby the upper deflecting sheave is supported on his base frame (10), for the known features of multiple roping.

It would have been obvious to one of ordinary skill in the art to modify the reference of Ach with the teaching of Hayashi et al for the benefits of reduced power consumption and spatial needs.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ach in view of Hayashi et al and Bauer, as applied to Claim 6, and in further view of Yasuda et al (6,488,124).

Ach is silent regarding lower deflecting sheaves and though Hayashi et al teaches lower deflecting sheaves (11) near the side wall of their elevator shaft and having transverse axes of rotation perpendicular to their side wall to guide a part of their hoisting element extending downward from their traction sheave as well as a support frame (depicted, not numbered) supporting their lower deflecting sheaves below their base frame, Hayashi et al are silent regarding their support frame including a pair of vertical members as well as their vertical members joined to support means fixed to their counterweight and car guide rails.

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Bauer teaches lower deflecting sheaves (18) and a support frame as those of Hayashi et al; however, Bauer is silent regarding their support frame including a pair of vertical members as well as their vertical members joined to support means fixed to their counterweight and car guide rails as well.

Attention is directed to Yasuda et al who teach their lower deflecting sheaves (226, Fig. 22 and 23B) near their side wall, wherein their deflecting sheaves have transverse axes of rotation perpendicular to their side all to guide a part of their hoisting element (211) extending downward from their traction sheave (210) as well as a support frame (229) supporting their lower deflecting sheaves below their base frame (208), wherein their support frame includes a pair of vertical members (depicted, not numbered) as well as their vertical members joined to support means (230) fixed to their counterweight guide rails (205) as well as a horizontal member extending between the lower ends of their vertical members, for the feature decreasing "...plane size and height of an elevator shaft" (Col. 2, Line 32) of elevators not a having a machine-room.

Though Yasuda et al teach vibration-isolation means (320, Fig.'s 43 - 44) primarily for their base frame and driving device and Yasuda et al are silent regarding their support frame fixed to their car guide rails as well as their counterweight rails, the incorporation of vibrating-isolating means to their support frame as well as additionally fixing their support frame to their car guide rails as well as their counterweight guide rails for structural enhancement would have been obvious to one having ordinary skill in the art.

Therefore, it would have been obvious to one of ordinary skill in the art to modify the reference of Ach, Hayashi et al and Bauer with the teaching of Yasuda et al to provide additional means by which to reduce space and eliminate "...projecting portions..." of the driving device.


Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ach in view of Hayashi et al and Bauer, as applied to Claim 6, and in further view of Aulanko et al.

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Ach, Hayashi et al and Bauer are silent regarding a control panel for controlling the operation of their respective driving device.

Attention is directed to Aulanko et al who teach their control panel (8, Fig. 1 and Col. 3, Lines 25 - 28) for controlling their driving device (6) and disposed in a region near either their left or right side wall of their elevator shaft, wherein the control panel and driving device are "... mounted to form a single aggregate" in their machine-roomless elevator.

It would have been obvious to one of ordinary skill in the art to modify the reference of Ach, Hayashi et al and Bauer with the teaching of Aulanko et al to provide an integrated control and driving device assembly for the benefits of saving space, localized control and facilitating installation.

 **Claims 10 - 14¹⁵** are rejected under 35 U.S.C. 103(a) as being obvious over Ach in view of Hayashi et al and Bauer, as applied to Claim 6, and in further view of Kawasaki et al (JP 2004-189346).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

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Re: Claims 10, 12 and 14, Ach and Hayashi et al are silent regarding their respective base frame having a side support beam perpendicular to their rear wall and a diagonal support beam as well.

Bauer teaches his base frame (15, Fig. 1) having a side support beam (15.1) perpendicular to his rear wall, a rear support beam (15.1) and connecting members (not depicted, understood), wherein their base frame includes an opening (21) for their hoisting element (16); however, Bauer is silent regarding a diagonal support beam parallel to the axis of rotation of his traction sheave.

Attention is directed to Kawasaki et al who teach their base frame (21, Fig. 2) having a side support beam (not numbered) perpendicular to his rear wall, a rear support beam (not numbered) and connecting members (not depicted, understood) and a diagonal support beam (not numbered) parallel to the axis of rotation of their traction sheave (17), wherein their side support frame includes an opening (8a) for their hoisting element (8), for the features of saving space in the horizontal view of the elevator shaft by removing obstruction attributable to the displacement of the driving device, reducing wear of their hoisting element and affording a rope run whereby vibration is dampened.

It would have been obvious to one of ordinary skill in the art to modify the reference of Ach, Hayashi et al and Bauer with the teaching of Kawasaki et al to exploit the aforementioned features for savings in installation- and operating costs.

Re: Claim 11, though Kawasaki et al teach their diagonal beam as integral to their rear and side support beams, the provision of the diagonal beam as integral to the side and rear support beams in lieu of as a separate piece requiring fastening means is a well known mechanical equivalent which would have been an obvious alternative since applicant has not disclosed that the provision as a separate piece solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with an integral diagonal beam.

Re: Claim 13, though Ach, Hayashi et al, Bauer and Kawasaki et al are silent regarding their beams formed from shape steel having one side opened, the use of

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shape steel is well known in the art for its lack of expense and ready availability as acknowledged in the specification of the instant invention.

Re: Claim 15, Ach discloses his support means is provided with an opening (17) through which a vertical part of his hoisting element passes.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hamaguchi (US 2002/0040830) is cited for reference of a machine-roomless elevator including a traction sheave arranged diagonally to his side and rear walls of his elevator shaft.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Kruer whose telephone number is 571.272.5913. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Cuomo can be reached on 571.272.6856. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free).

SHK

06 July 2007


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